United States
Environmental Protection
Agency

Region 5
Office of Public Affairs
230 South Dearborn Street
Chicago, Illinois 60604

Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

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EPA

FACT SHEET

WOODSTOCK MUNICIPAL LANDFILL 70198
SUPERFUND SITE
Woodstock, Illinois
March 1991

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) Region 5, the Illinois Environmental Protection Agency (IEPA) and three **potentially responsible parties (PRPs)** (words appearing in **bold** are defined in the glossary) signed a **consent order**, which took effect in October 1989. This agreement calls for the PRPs, comprised of the City of Woodstock and local and multinational companies, to conduct a long term study of the site under the close supervision of EPA and IEPA.

The study, which is currently in progress, is called a remedial investigation/ feasibility study (RI/FS). The remedial investigation (RI) portion of the study will concentrate on determining the type and extent of contamination present at the Woodstock site. The feasibility study portion will compile the information gathered during the RI and use it to recommend the best method for minimizing or eliminating the future contamination of the environment by the site.

PROGRESS TO DATE

The work plan used to conduct the RI/FS was approved by EPA in June of 1990. The work plan outlines several tasks to be completed by the PRPs during the RI/FS process. The RI for the site was split into two phases, the first phase (Phase I) was completed in December 1990. The second phase (Phase II) began in mid-January 1991.

SITE ACTIVITIES TO DATE

Landfill Source Area Study

During Phase I, a **geophysical survey** was conducted to help establish the edge of the landfill and to examine an area inside the landfill suspected to contain buried drums. Following the geophysical survey, **five leachate wells**, wells drilled into the landfill's contents, were installed. Two of the wells were installed in the proximity of the suspected drum disposal area. Twelve **monitoring wells** were installed at six locations surrounding the landfill.

As part of the source area evaluation effort for the site, five leachate samples and two landfill gas samples were collected from two leachate wells. The leachate samples were analyzed for the full listing of hazardous substances EPA requires for Superfund sites. The landfill gas samples were analyzed for the **volatile organics compounds** which comprise part of that list.

Surface Water/Wetlands Studies

As part of the surface water investigation for the site, eight sediment samples and one surface water sample were taken from various points in the adjoining **wetlands** and analyzed for the full list of hazardous substances.

The purpose of the sediment sampling was to gather an initial evaluation of the impact the site has had on the local surface water features. Also, as part of the surface water and wetlands investigation, a **wetland delineation** was completed to map the areas on and adjacent to the site to determine the size and natural resource value of the site's wetlands.

Groundwater Study

As part of the ground water studies at the site, the twelve monitor wells were sampled and analyzed for the full listing of EPA hazardous substances except for **polychlorinated-biphenyls (PCBs)** and pesticides. PCBs and pesticides were not included in the analyses since they were not found in any of the leachate samples and since they were not originally suspected to be a problem at the site.

Additionally four residential wells, some of which had been sampled by EPA previously, were sampled and analyzed for metals and volatile organics.

To determine the direction of groundwater flow at the site, groundwater and surface water evaluations were obtained twice during Phase I.

Also during Phase I, **geotechnical testing** was completed to gain a better understanding of the engineering properties of the site soils, and to aid in evaluating possible cleanup options.

SAMPLING RESULTS

Source Area Results

Phase I results reveal that there has been some impact from the landfill to the adjacent wetlands, surface water and groundwater. Low levels of benzene, toluene and ethylbenzene, all constituents of gasoline were found in one monitor well and in three leachate wells.

Leachate well samples showed relatively low levels of volatile organics and **semi-volatile organics** in the landfill **leachate**. No PCBs or pesticides were detected in the leachate. Metal concentrations were seen to be somewhat elevated in the region suspected of drum disposal.

Surface Water/Wetland Study Results

Sediment sampling showed **zinc** to be concentrated at levels of concern. However, it is unknown if the elevated zinc levels are due to the landfill or other causes. Toluene was found in slightly higher levels in one of the sediment samples. This may be indicative of leachate discharge to nearby wetlands.

Groundwater Results

Vinyl Chloride was found in one of the monitor wells at 16 parts-per-billion (ppb). This exceeds EPA's limit for safe drinking water standardsby eight times. **Trichloro-ethylene** (TCE) was found in four of the monitoring wells but was later found to be the result of sampling equipment contamination. Therefore TCE is not identified as a contaminant of concern. Volatile organics were the only substances found at levels of concern in the groundwater at the site.

PHASE II ACTIVITIES

Ground Study

Phase II work so far has included the installation of an additional four monitor wells and nine **piezometers**. Three of the monitor wells were installed near where the vinyl chloride was detected. The remaining well is located between the landfill and the wetland in the northeast portion of the site. In this area, gasoline constituents (benzene, toluene, xylene, and ethylbenzene) were detected in leachate wells, wetland sediments and groundwater. The piezometers are placed in locations where additional groundwater elevation data is required to determine the flow characteristics onto and off of the site. The piezometers will be useful in determining the appropriate type of remedy for the site.

Wetland/Surface Water Study

Four additional wetland sediment samples will be collected to provide background samples for comparison with samples taken from suspected leachate discharge points at the landfill.

Three additional sediment samples will be collected from Kishwaukee Creek to determine if surface water discharge from the landfill has had any effect on the creek sediments. Three additional surface water samples will be taken from Kishwaukee Creek. These samples will be taken both upstream and downstream of the discharge area located in the southwestern portion of the site to determine the impact of this discharge on the creek.

Source Area Study

The existing leachate wells were resampled to confirm the results of Phase I sampling so that variability with time can be factored into the risks posed by the site. Discussions between EPA and the PRPs are currently ongoing to determine whether further investigation is warranted in the area suspected of drum burial.

ADDITIONAL INFORMATION

For additional information concerning the results of sampling taken during the first phase of the RI, please reference the **Technical Memoranda (TM)** for Phase I. The TMs for the first phase are available at the information repositories listed below.

Woodstock Library
414 West Judd St.
Woodstock, IL 60098

McHenry County Health Department
2200 North Seminary Ave.
Woodstock, IL 60098

The following EPA personnel may be contacted if you have further questions.

MaryAnn Croce-LaFaire	Robert Swale
Community Relations Coordinator	Remedial Project Manager
Office of Public Affairs	Hazardous Waste Enforcement Branch
(312) 886-1728	(312) 886-5116

Toll Free: 1-800-621-8431

MAILING LIST ADDITIONS AND CORRECTIONS

If you would like your name and address placed on the mailing list for the Woodstock site, and if you didn't receive this in the mail, please fill this out and mail this form to:

MaryAnn Croce-LaFaire
Community Relations Coordinator
Office of Public Affairs (5PA-14)
U.S. EPA Region 5
230 South Dearborn St.
Chicago, IL 60604

Name: _____
Address: _____
Telephone: _____

GLOSSARY

Consent Order - A legal document that formalizes an agreement reached between EPA and the potentially responsible parties (PRPs) through which the PRPs will conduct work at the site.

Geophysical Survey - A group of investigative techniques that detect variations in electrical currents and magnetism in the ground. Variations are caused by differences in subsurface materials. For example metal objects containing iron are magnetic, whereas sand and clay are not; buried waste will conduct electricity differently from undisturbed earth. A metal detector is a form of a geophysical instrument.

Geotechnical Testing - A series of exercises performed on the soil and rock materials that make up the site, to evaluate their ability to transport water, their usefulness as a building material and their strength.

Leachate Wells - Special wells drilled into a landfill to sample liquids leaching from the wastes (see monitoring wells).

Monitoring Wells - Special wells drilled into the earth to study ground water. Monitoring well samples are taken to evaluate the degree of contamination if any in the groundwater from expected areas on the site. Monitor wells also act as piezometers.

Piezometer - A type of well placed in the ground to measure the level of groundwater in the soil.

Polychlorinated-biphenyls (PCBs) - A sub-group of the PAH family of organic chemical, containing chlorine. PCB's were widely used in electrical transformers, fire retardants, heat transfer operations and other industrial manufacturing processes. Although PCBs are not now manufactured in the United States, they are produced inadvertently in some combustion processes, such as garbage incineration. PCBs are toxic and when introduced, remain in the environment in a near stable form.

Potential Responsible Parties (PRPs) - Individuals, companies, or governmental entities alleged to have owned or operated a site; transported, or generated wastes disposed at the site.

Semi-volatile Organics - A large group of organic compounds grouped on their limited ability to evaporate under normal atmospheric conditions.

Trichloro-ethylene (TCE) - A common volatile organic compound used in industry for degreasing and other uses. TCE is toxic, and in nature degrades into other more toxic compounds such as vinyl chloride.

Volatile Organics Compounds (VOCs) - A group of organic compounds that have a tendency to evaporate when exposed to normal atmospheric conditions. Since ground water does not come into contact with the air, VOCs are not as easily released and can be present in drinking water obtained from wells. VOCs may pose a potential threat to human health. Some VOCs are known or believed to cause cancer in humans. Examples of VOCs include: benzene, toluene, xylene, and vinyl chloride.

Vinyl Chloride - An common breakdown product of TCE and other chlorinated compounds commonly found in landfills. Vinyl chloride is a known human carcinogen.

Wetlands - An area that is regularly saturated by surface or ground water and subsequently is characterized by prevalence of lifeforms that are commonly found in saturated soil conditions. Examples include: swamps, bogs, fens, marshes and estuaries.

Wetland Delineation - A common exercise performed to determine the extent of wetland conditions in an area. Wetlands are characterized by their soil type and the type and number of various lifeforms. A wetland has to meet the definition of a wetland, before being classified as such.

Zinc - A common heavy metal used by industry to coat or plate iron products to help them resist rust corrosion in a process known as galvanizing.

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